

In the Claims

Claims 1-39 (Canceled)

Claim 40 (New): A machine readable storage medium comprising a program containing a set of instructions for causing a cell screening system to execute procedures for measuring internalization of cell surface receptor proteins in individual cells on an array of locations which contain multiple cells, wherein the procedures comprise:

- a) identifying internalized cell surface receptor proteins in multiple individual cells on the array of locations, wherein the individual cells comprise at least a first luminescent reporter molecule that reports on a cell surface receptor protein of interest, and at least a second luminescent reporter molecule that identifies cells, wherein the identifying comprises determining whether luminescent signals from the at least first luminescent reporter molecule on or in the individual cells identified by the at least second luminescent reporter molecule meet or surpass a user-defined threshold luminescent intensity, wherein luminescent signals from the at least first luminescent reporter molecule that meet or surpass the user-defined threshold luminescent intensity represent an internalized cell surface receptor protein; and
- b) calculating a number and/or percent of the individual cells that internalized the at least first luminescently labeled reporter molecule wherein the calculations provide a measure of internalization of the cell surface receptor protein in the individual cells.

Claim 41 (New): The machine readable storage medium of claim 40, wherein the individual cells are live cells, and wherein steps (a) and (b) are performed at multiple time points.

Claim 42 (New): The machine readable storage medium of claim 40, wherein the procedures further comprise determining one or more of the following:

- i) an aggregate area of objects that represent the internalized cell surface receptor protein;
- ii) an aggregate intensity of objects that represent the internalized cell surface receptor protein;

- iii) a normalized aggregate intensity of objects that represent the internalized cell surface receptor protein;
- iv) a number of objects that represent the internalized cell surface receptor protein;
- and
- v) an average number per cell of objects that represent the internalized cell surface receptor protein.

Claim 43 (New): The machine readable storage medium of claim 40, wherein the imaging multiple cells in the array of locations comprises:


- i) obtaining a low resolution image to identify locations in the array of locations that contain internalized cell surface receptor proteins; and
- ii) obtaining a high resolution image of only those locations that contain internalized cell surface receptor proteins.

Support for the new claims:

The new claims are supported throughout the application, for example in Example 4 and specifically on pages 64-67, as well as in the claims as filed. Thus, the new claims do not constitute new matter.

Respectfully submitted,

10/15/03

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